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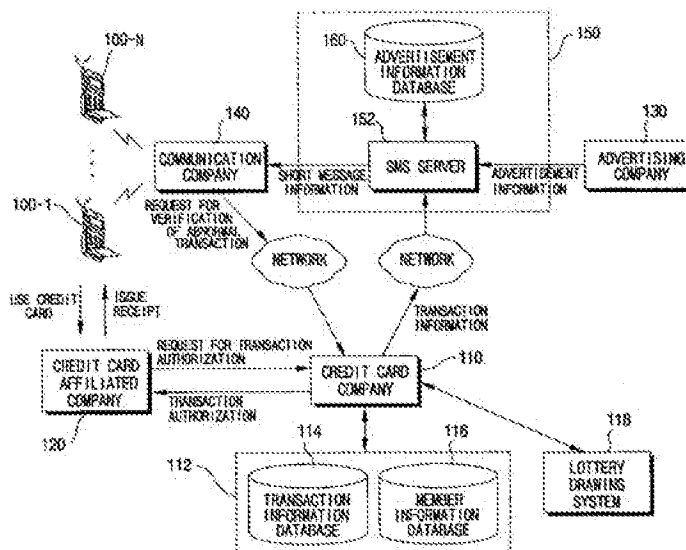
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(54) Title: METHOD AND APPARATUS FOR NOTIFYING CREDIT TRANSACTION INFORMATION



(57) Abstract: Disclosed is a method and apparatus for notifying credit transaction information through a network. Transaction information generated by use of a credit card is received from a credit card company and advertisement information for goods or service is received from an advertising company. A telephone number designed by the advertising company or credit card company or a credit card lottery number is selectively constructed in the received transaction information. The short message is transmitted to the mobile communication terminal of a credit card holder through a mobile communication company.



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## METHOD AND APPARATUS FOR NOTIFYING CREDIT TRANSACTION INFORMATION

### Technical Field

The present invention relates to a method and apparatus for notifying credit  
5 transaction information, and more particularly, to a method and apparatus for notifying  
credit transaction information for simply and fast providing credit card transaction  
information through a network.

### Background Art

In general, credit cards are issued on individuals or companies by issuers, e.g.,  
10 banking institutions. Goods or services are paid offline at EFT/POS (Electronic Funds  
Transfer/Point of Sale) terminals through a credit card issuer's allowed CD/ATM  
(Automatic Teller Machine) or bank window, online connected PC/phone, and the like,  
using the issued credit card within the allowed utilization limit (credit limit) of an issued  
credit card, and then settlement is made with a banking institution through a VAN  
15 (Value Added Network) provider.

The banking institutions associated with circulation, supply and brokerage of  
funds, for example, banks, stock companies or insurance companies, do financial  
transactions through use of credit cards, cash cards or debit cards.

After a credit card is used, credit transaction information containing date,  
20 location and amount of transaction, and commission of transaction, is transmitted to a  
user. The credit card transaction information is sent to the user when a predetermined  
settlement date draws near.

Owing to advanced information and communication technologies, the credit card  
transaction information can be sent to the user in the form of an e-mail through Internet  
25 when a predetermined settlement date draws near.

However, since the user cannot be notice of illegal (fraudulent) use of the credit  
card in the event where the user happens to lose the credit card until the credit card  
transaction information is received. Thus, the user cannot avoid paying for the amount  
accruing from illegal use of the credit card.

Recently, in order to encourage use of credit cards for realization of clear business transactions, the credit card lottery system has been being executed under the superintendence of National Tax Service, Korea.

Many credit card companies are also executing the credit card lottery system for the purpose of taking market shares of credit cards.

The credit card lottery system is implemented such that credit card receipts are collected and drawn monthly or in units of a predetermined period. Winners are notified of the drawing result that they won in the lottery by phone.

Since the drawers should be notified of the fact that they won in the lottery by phone, the staff in charge of telephone communications is required.

Also, since only the winners are notified of, and other credit card users who won nothing in the lottery, cannot know the drawing status, the current credit card lottery system has a disadvantage in gaining publicity.

#### Disclosure of the Invention

The present invention addresses the limitations and problems associated with the related art by providing a method and apparatus for notifying credit transaction information, by which the credit transaction information is transmitted to pre-registered personal portable communication terminals, e.g., cellular phones or IMT-2000 (International Mobile Telecommunication-2000), whenever credit card transactions occur.

It is another object of the present invention to provide a method and apparatus for notifying credit transaction information, by which the credit transaction information is transmitted to personal portable communication terminals whenever authorization of credit card transaction is requested.

It is still another object of the present invention to provide a method and apparatus for notifying credit transaction information, by which the credit transaction information is transmitted with advertisement information attached thereto.

It is still yet another object of the present invention to provide a method and apparatus for notifying credit transaction information, by which the credit transaction information is transmitted with credit card lottery drawing result information attached

thereto.

To achieve the above objects, there is provided a method and apparatus for notifying credit transaction information, in which transaction information generated by use of a credit card is received from a credit card company and advertisement  
5 information for goods or service is received from an advertising company, a short message selectively containing the advertisement information in the transaction information is constructed and the short message is transmitted to the mobile communication terminal of a credit card holder.

According to another aspect of the present invention, there is provided a method  
10 and apparatus for notifying credit transaction information, in which it is checked whether the generated transaction information falls under prescribed credit card lottery winning standards or not, the lottery drawing result information is received from the credit card company and the received lottery drawing result information is constructed as a short message, to then transmit a short message for the transaction information to  
15 the mobile communication terminal of the credit card holder, with the short message for the lottery drawing result information selectively attached thereto.

According to still another aspect of the present invention, there is provided a method and apparatus for notifying credit transaction information, in which a short message selectively containing a telephone number designated by the credit card  
20 company in the transaction information generated by use of a credit card is constructed and then the short message is transmitted to the mobile communication terminal of a credit card holder.

#### Brief Description of the Drawings

FIG. 1 is a schematic block diagram of an apparatus for notifying credit  
25 transaction information according to a first embodiment of the present invention;

FIGS. 2A through 2C show the internal structures of databases shown in FIG. 1;

FIG. 3 shows an example of a short message transmitted to a mobile communication terminal;

FIG. 4 is a flow chart of a method for notifying credit transaction information by  
30 the apparatus shown in FIG. 1

FIG. 5 is a schematic block diagram of an apparatus for notifying credit transaction information according to a second embodiment of the present invention;

FIG. 6 is a flow chart of a method for notifying credit transaction information by the apparatus shown in FIG. 5;

5        FIG. 7 is a schematic block diagram of an apparatus for notifying credit transaction information according to a third embodiment of the present invention;

FIG. 8 is a flow chart of a method for notifying credit transaction information by the apparatus shown in FIG. 7; and

10        FIG. 9 is a flow chart of a method for notifying credit transaction information according to a fourth embodiment of the present invention.

#### Best mode for carrying out the Invention

Preferred embodiments of a method and apparatus for notifying credit transaction information will now be described with reference to the accompanying drawings.

15        FIG. 1 is a schematic block diagram of an apparatus for notifying credit transaction information according to a first embodiment of the present invention, FIGS. 2A through 2C show the internal structures of databases shown in FIG. 1, and FIG. 3 shows an example of a short message transmitted to a mobile communication terminal.

As shown in FIG. 1, the apparatus for notifying credit transaction information  
20        according to a first embodiment of the present invention includes first through Nth mobile communication terminals 100-1 through 100-N, a credit card company 110, a credit card affiliated company (store) 120, a communication company 140, an advertising company 130 and a short message service company 150.

Here, the credit card company 110 issues a credit card that can be used within  
25        allowed credit limit when goods or service is purchased, to a user of one of the first through Nth mobile communication terminals 100-1 through 100-N, and selectively outputs an authorization number in response to card user's request for authorization of transaction.

Also, the credit card company 110 includes a database 112 consisting of a  
30        transaction information database 114 storing transaction information responsive to the

request for authorization of transactions arising from use of the issued credit card, a member information database 116 storing personal information of a credit card holder (member) and a lottery drawing system 118 for holding a credit card lottery in accordance with the transaction information.

5       The first through Nth mobile communication terminals 100-1 through 100-N may be one of a cellular phone, a PCS, an IS-95C and IMT-2000. Users of the first through Nth mobile communication terminals 100-1 through 100-N are credit card members of credit card company 110. The first through Nth mobile communication terminals 100-1 through 100-N are where to make contacts in an emergency, as  
10       registered in membership enrollment.

Evidently, the credit card issued by the credit card company 110 contains information of a serial number of the credit card or a user number of the credit card holder (member).

The credit card company 110 is constructed to output the transaction  
15       authorization number to the credit card affiliated company 120 and to output credit transaction information corresponding to the transaction authorization to the short message service company 150. Here, the credit transaction information includes authorization number.

The lottery drawing system 118 of the credit card company 110 determines  
20       whether the transaction information falls under prescribed credit card lottery winning standards or not, based on the authorization number and outputs credit card drawing information.

The credit card lottery winning standards may be set by transaction authorization number, for example, a predetermined number of digits in the authorization number  
25       equal to the date of transaction, or digits in the authorization number equal to digits of credit card holder's birthday.

Also, the credit card lottery winning standards may be set based on the serial number of a credit card given at the time of issuance of the credit card, that is, a credit card holder may win in the lottery if the serial number of the credit card contains digits  
30       indicated by the date of occurrence of credit transaction.

The short message service company 150 includes an SMS (Short Message

Service) server 152 and an advertisement information database 160.

The SMS server 152 receives advertisement information for advertising goods, service or events from the advertising company 130 through the first through Nth mobile communication terminals 100-1 through 100-N and stores the received  
5 information in the advertisement information database 160.

Here, the advertisement information stored in the advertisement information database 160 is classified by codes according to member information stored in the member information database 116, e.g., sex, age or occupation, location of credit transaction, or types of credit card affiliated companies, stored in the transaction  
10 information database 114.

The types of credit card affiliated companies are classified based on items dealt in by the credit card affiliated companies, e.g., clothing stores, furniture stores or restaurants.

The SMS server 152 and the advertising company 130 establish a contact online or offline, covering an advertisement rate, an advertisement running period, a rate  
15 calculating method and so on, accruing from transmission of advertisement to the first through Nth mobile communication terminals 100-1 through 100-N in the form of short messages through the SMS server 152.

The SMS server 152 constructs a short message for advertisement information  
20 corresponding to the code received from the credit card company 110, stored in the advertisement information database 160 according to the credit transaction information received from the credit card company 110 and the advertisement information code set depending on the credit transaction information, and transmits the short message to the communication company 140 together with member information of a pertinent user  
25 among users of the first through Nth mobile communication terminals 100-1 through 100-N.

The communication company 140 receives the short message and member information output from the SMS server 152 of the short message service company 150, and transmits the short message to the corresponding terminal of the credit card holder  
30 who made credit transaction, among the first through Nth mobile communication terminals 100-1 through 100-N, according to the member information.

Also, the short message of the transaction information may be transmitted in the form of e-mail through a card holder's designated e-mail address in response to credit card holder's request.

Here, the transaction information database 114 of the short message service  
5 company 150 includes names of members, user numbers, kinds of credit cards, dates of transaction, names of credit card affiliated companies, use amount and type, total amount of the month, and so on, as shown in FIG. 2A.

The member information database 116 includes names of members, user numbers, numbers of mobile communication terminals, credit card mileage, and  
10 arrearage data, as shown in FIG. 2B.

Evidently, the member information database 116 may further include personal information of members, e.g., age, identification number, date of birth, occupation, hobby and so on.

Also, as shown in FIG. 2C, the advertisement information database 160 includes  
15 names of advertising companies, advertisement running periods, contents of advertisement and so on.

The aforementioned apparatus for notifying credit transaction information according to a first embodiment of the present invention operates as follows.

First, if a user of one of the first through Nth mobile communication terminals  
20 100-1 through 100-N purchases goods or service at the credit card affiliated company 120 using the credit card issued by the credit card company 110, the credit card affiliated company 120 transmits a signal of requesting transaction authorization to the credit card company 110 through the credit card and a credit card transaction authorization reference machine (not shown).

25 The credit card company 110 transmits a transaction authorization signal to the credit card affiliated company 120 if there is no reason for disapproval of the credit card corresponding to the requesting signal from the credit card affiliated company 120.

The credit card company 110 transmits transaction information containing a transaction authorization number and an advertisement class code corresponding to the  
30 transaction information to the SMS server 152 of the short message service company 150, at the same time of transmitting the transaction authorization signal to the credit



card affiliated company 120.

Here, the advertisement class code is a code used for transmitting to user advertisement suited to users' preference determined by member information of users of the first through Nth mobile communication terminals 100-1 through 100-N, e.g., sex,  
5 age, occupation or hobby, and transaction information, e.g., kinds of goods or location of transaction.

Also, the credit card company 110 determines whether the transaction authorization number and credit card serial number fall under predetermined credit card lottery winning standards or not by the lottery drawing system 118, and transmits a  
10 lottery drawing result to the SMS server 152 together with the transaction information.

The network may be one of networks capable of transmitting transaction authorization signals, e.g., a wired/wireless Internet, dedicated line or telephone network.

The SMS server 152 receives user information for a holder of a credit card  
15 issued by the credit card company 110 that is, a user of one of the first through Nth mobile communication terminals 100-1 through 100-N, stores the received user information in the member information database 116, receives advertisement information from the advertising company 130 and stores the advertisement information in the advertisement information database 160. Here, the advertisement information  
20 received from the advertising company 130 includes texts and/or drawings. The advertising company 130 may be evidently the credit card company 110.

The SMS server 152 constructs a short message from the transaction information and lottery drawing result information sent from the credit card company 110 and the advertisement information corresponding to the advertisement class code, stored in the  
25 advertisement information database 160, and outputs the constructed short message to the communication company 140 with the mobile communication terminal number attached thereto.

The transmission capacity of short messages that can be output to the mobile communication terminal by the SMS server 152 is approximately 80 bytes, that is,  
30 approximately 40 bytes for transaction information, and approximately 40 bytes for advertisement information and/or lottery drawing result information.

The communication company 140 selectively transmits a short message for the transaction information and advertisement information output from the SMS server 152 to one of the first through Nth mobile communication terminals 100-1 through 100-N, corresponding to the mobile communication terminal number through a base station (not shown).

FIG. 3 shows an example of a short message transmitted to the user of one of the first through Nth mobile communication terminals 100-1 through 100-N from the SMS server 152 through the communication company 140.

The short message includes transaction information containing a card type 300, transaction date 302, affiliated company name 304, use amount 306 and total monthly use amount 308, a telephone number 310 for a report of the loss of a credit card and advertisement information 312.

The user of one of the first through Nth mobile communication terminals 100-1 through 100-N can immediately check transaction particulars at the transaction generated time from a short message transmitted through a user's mobile communication terminal.

If the transaction checked from the short message is different from the actual transaction, the user transmits a signal of requesting for verification of abnormal transaction to the credit card company 110 through the communication company 140 and communicates with the credit card company 110 over the phone to take a proper step for the abnormal transaction.

In other words, the mobile communication terminal includes a call-back system by which a call is immediately made to the telephone number of the credit card company contained in the short message. In the case where the transaction checked from the short message is abnormal, a 'call' button on the mobile communication terminal is pressed so that a call is immediately established to the telephone number contained in the transaction information, for example, the telephone number of a customer service center in the credit card company 110, to take a proper step such as a report of the loss of a credit card or prohibition of the use of a credit card.

Here, a verification signal that the user has checked the short message transmitted to the first through Nth mobile communication terminals 100-1 through

100-N may be transmitted to the SMS server 152.

The SMS server 152 may be constructed such that a short message is transmitted continuously for a constant period until the user of one of the first through Nth mobile communication terminals 100-1 through 100-N checks the transmitted short message.

5 Also, the advertisement information may be selectively attached to the transaction information to be transmitted to the mobile communication terminal in the form of a short message.

The above-described present invention may be implemented such that a signal of requesting transaction authorization generated by the use of a credit card is constructed  
10 in the form of a short message to be transmitted to the user's mobile communication terminal.

A method of notifying credit transaction information according to a first embodiment of the present invention will now be described with reference to the accompanying drawing.

15 FIG. 4 is a flow chart of a method for notifying credit transaction information by the apparatus shown in FIG. 1.

A short message service company 150 receives advertisement information from an advertising company 130, constructs a database, and stores the advertisement information in an advertisement information database 160 (step S400).

20 Then, it is determined whether transaction generation information corresponding to a transaction authorization request signal through a credit card and transaction authorization, and lottery drawing result information corresponding to the transaction generation information, are input from the credit card company 110 (step S402).

If the transaction generation information and lottery drawing result information  
25 are input in step S402, the SMS server 152 receives transaction information based on generation of transaction, member information and an advertisement class code corresponding to the transaction information and member information, from the credit card company 110 (step S404), and constructs a short message from the input transaction information, the lottery drawing result information and the advertisement  
30 information corresponding to the advertisement class code stored in the advertisement information database 160 (step S406).

Subsequently, the mobile communication terminal information of the member information for the credit card holder who has made transaction, is attached to the thus-constructed short message to then be output to the communication company 140 (step S408).

5       The communication company 140 transmits a short message to the corresponding mobile communication terminal based on the mobile communication terminal information (step S410).

10       The advertisement information and the lottery drawing result information may be selectively attached to the transaction information in the form of a short message to be transmitted. In other words, the transaction information with the advertisement information attached thereto or the transaction information with the lottery drawing result information attached thereto, may be transmitted to the mobile communication terminal.

15       It is determined whether upon checking the transmitted short message, an abnormal transaction verification request signal is input from the corresponding mobile communication terminal (step S412). A call is made to the telephone number of the credit card company 110 contained in the short message according to the abnormal transaction verification request signal to take a proper step for solving the abnormal transaction (step S414).

20       Another embodiments of the present invention will now be described with reference to the accompanying drawings.

FIG. 5 is a schematic block diagram of an apparatus for notifying credit transaction information according to a second embodiment of the present invention, and FIG. 6 is a flow chart of a method for notifying credit transaction information by the apparatus shown in FIG. 5.

25       As shown in FIG. 5, the apparatus for notifying credit transaction information according to a second embodiment of the present invention includes first through Nth mobile communication terminals 500-1 through 500-N, a credit card affiliated company (store) 510, an advertising company 520, a credit card company 540 for constructing a short message from credit card transaction information to be transmitted through a communication company 530.

Here, the credit card company 540 includes an SMS server 542 and a database 550 having a transaction information database 552, a member information database 554 and an advertisement information database 556. Here, the credit card company 540, as shown in FIG. 1, may further include a lottery drawing system (not shown) for holding a credit card lottery and outputting corresponding lottery drawing result information.

The aforementioned apparatus for notifying credit transaction information according to a second embodiment of the present invention operates as follows.

The credit card company 540 transmits a transaction authorization signal to the credit card affiliated company 510 if there is no reason for disapproval of the credit card corresponding to the requesting signal from the credit card affiliated company 510.

The credit card company 540 receives advertisement information from the advertising company 520, stores the received advertisement information in the advertisement information database 556 and stores information on a credit card holder, i.e., member information, in the member information database 554.

Here, the advertisement information database 556 stores advertisement information by class code depending on the kind of advertisement information classified by member information of users of the first through Nth mobile communication terminals 500-1 through 500-N.

The SMS server 542 of the credit card company 540 constructs a short message from the advertisement information and the transaction information corresponding to the transaction authorization signal output at the same time when the transaction authorization signal is output to the credit card affiliated company 510, and outputs the constructed short message to the communication company 530 with the mobile communication terminal number, attached thereto, the mobile communication terminal number being from the member information used in requesting for transaction authorization.

The transaction information corresponding to the transaction authorization signal is stored in the transaction information database 552.

The communication company 530 receives short message information and transmits the same to one of the first through Nth mobile communication terminals 500-1 through 500-N, corresponding to the mobile communication terminal number through

a base station (not shown).

As described above, the operation of constructing and transmitting a short message from lottery drawing result information by use of the lottery drawing system is the same as that of the first embodiment of the present invention and a detailed explanation thereof will not be given.

A method of notifying credit transaction information according to a second embodiment of the present invention will now be described with reference to FIG. 6.

First, the credit card company 540 constructs transaction information corresponding to a transaction authorization request from the credit card affiliated company 510 and transaction authorization (step S600).

Then, the SMS server 542 of the credit card company 540 constructs a short message from transaction information and advertisement information suited to users' preference determined by the transaction information and the member information of users of the first through Nth mobile communication terminals 500-1 through 500-N, the advertisement information stored in the advertisement information database 556 (step S602).

The SMS server 542 outputs a short message constructed in step S602 to the communication company 530 with the mobile communication terminal number attached thereto, the mobile communication terminal number being from the member information used in requesting for transaction authorization (step S604).

The communication company 530 transmits the short message information received from the SMS server 542 to one of the first through Nth mobile communication terminals 500-1 through 500-N, corresponding to the mobile communication terminal information (step S606).

The operation for abnormal transaction in the short message transmitted to the first through Nth mobile communication terminals 500-1 through 500-N and a lottery drawing method are the same as those in the first embodiment of the present invention and a detailed explanation thereof will not be given.

FIG. 7 is a schematic block diagram of an apparatus for notifying credit transaction information according to a third embodiment of the present invention, and FIG. 8 is a flow chart of a method for notifying credit transaction information by the

apparatus shown in FIG. 7.

As shown in FIG. 7, the apparatus for notifying credit transaction information according to a third embodiment of the present invention includes first through Nth mobile communication terminals 700-1 through 700-N, a credit card affiliated company 710, a credit card company 720, an advertising company 730 and a communication  
5 company 740 for constructing a short message from credit transaction information and transmitting the same.

Here, the credit card company 720 includes a database 750 consisting of a transaction information database 752 storing transaction information and a member  
10 information database 754 storing personal information of a credit card holder (member).

Also, the communication company 740 includes an SMS server 742 for constructing and transmitting a short message from transaction information received from the credit card company 720 and advertisement information, and an advertisement information database 760 for storing input advertisement information.

Here, the advertisement information database 760 stores advertisement  
15 information by advertisement class code classified by users' preference determined by user's sex, age or occupation and location of transaction, the user using one of the first through Nth mobile communication terminals 700-1 through 700-N.

The aforementioned apparatus for notifying credit transaction information  
20 according to a third embodiment of the present invention operates as follows.

The credit card company 720 transmits a transaction authorization signal to the credit card affiliated company 710 if there is no reason for disapproval of the credit card corresponding to the requesting signal from the credit card affiliated company 710.

Also, the credit card company 720 causes the transaction information based on  
25 transaction authorization and the member information of the credit card holder to be stored in the transaction information database 752 and the member information database 754, respectively.

Then, the credit card company 720 transmits transaction information and an advertisement class code suited to the determined user's preference to the SMS server  
30 742 of the communication company 740, at the same time of transmitting the transaction authorization signal to the credit card affiliated company 710. Here, the SMS server

742 receives the member information for a credit card holder who has made transaction from the credit card company 720.

The SMS server 742 stores advertisement information received from the advertising company 730 in the advertisement information database 766.

5       The SMS server 742 receives the transaction information from the credit card company 720 and the member information for a credit card holder who had made transaction and constructs a short message from the received transaction information and the advertisement information corresponding to the advertisement class code based on the user's preference.

10       The SMS server 742 transmits the constructed short message to the mobile communication terminal of the credit card holder via a base station (not shown).

Here, the operation for abnormal transaction in the short message and a lottery drawing method are evidently the same as those in the first embodiment of the present invention.

15       A method for notifying credit transaction information according to a third embodiment of the present invention will now be described with reference to FIG. 8.

First, the procedure of generating a transaction authorization request signal of the credit card affiliated company 710 and a transaction authorization signal of the credit card company 720 is the same as that described in FIG. 4, and a detailed explanation  
20       thereof will not be given.

The SMS server 742 of the communication company 740 constructs a database from the advertisement information received from the advertising company 730 and stores the advertisement information in the advertisement information database 760 (step S800).

25       Then, the SMS server 742 receives transaction information generated by use of a credit card and member information of a credit card holder from the credit card company 720 (step S802).

Also, the SMS server 742 receives transaction information based on transaction authorization from the credit card company 720, and receives an advertisement class  
30       code corresponding to the member information of a user of one of the first through Nth mobile communication terminals 700-1 through 700-N.



The SMS server 742 constructs a short message from the input transaction information and the advertisement information corresponding to the advertisement class code stored in the advertisement information database 760 (step S804).

5 The SMS server 742 transmits the short message constructed in step S802 to the corresponding mobile communication terminal from the member information, via a base station (not shown) (step S806).

The operation for abnormal transaction in the transmitted transaction information is evidently the same as that in the first embodiment of the present invention.

10 FIG. 9 is a schematic block diagram of an apparatus for notifying credit transaction information according to a fourth embodiment of the present invention.

First, the procedure of generating a transaction authorization request signal of a credit card affiliated company 120 and a transaction authorization signal of a credit card company 110 is the same as that described in the first embodiment of the present invention, and a detailed explanation thereof will not be given.

15 An SMS server 152 receives transaction information corresponding to the transaction authorization signal and a credit card lottery drawing result information corresponding to the transaction information, from the credit card company 110 (step S900).

20 The credit card lottery drawing result information is determined according to whether the transaction information falls under prescribed credit card lottery winning standards or not.

The credit card lottery winning standards may be set according to whether a predetermined number of digits in the credit card serial number of authorization number given by transaction authorization is equal to lottery numbers or digits of the use date of the credit card. Also, the credit card lottery winning standards may be set in various manners.

25 The transaction information and credit card lottery drawing result information input in step S900 are constructed as a short message (step S902). Here, the credit card lottery drawing result information is constructed so as to occupy approximately 40 bytes of the minimum capacity of displaying short messages to the mobile communication

terminal, that is, approximately 80 bytes, excluding approximately 40 bytes for transaction information.

Then, the SMS server 152 outputs the constructed short message to a communication company 140 with mobile communication terminal information of the credit card holder who has made transaction (step S904).

The communication company 140 transmits the short message containing the input transaction information and the credit card lottery drawing result information to the mobile communication terminal of the credit card holder based on the mobile communication terminal information (step S906).

Here, although the present invention is described through the case in which only the credit card lottery winning result is transmitted, a failure in a lottery can also be transmitted without deviating from the scope of the present invention.

The method and apparatus for notifying credit transaction information according to the present invention can be implemented such that transaction information is constructed in the form of an e-mail and then transmitted to a credit card holder's designated e-mail address.

According to the present invention, in addition to the transaction information arising from use of a credit card, transaction information arising from transaction with financial service institutions such as banks or stock companies, can also be notified.

#### Industrial Applicability

In the method and apparatus for notifying credit transaction information according to the present invention, transaction information is transmitted to the mobile communication terminal of a credit card holder in the form of a short message at the time of occurrence of transaction through a separate SMS server, an SMS server of a credit card company or an SMS server of a communication company.

Therefore, according to the present invention, the transaction information can be checked at the time of occurrence of the transaction. In any event where the credit card is illegally used, use of the credit card can be prohibited immediately through instant verification of the transaction, thereby preventing abuse of the credit card.

Also, since advertisement information is transmitted with transaction

information, advertising costs for an advertising company can be appropriated for communication costs incurred by transmission of short messages.

Further, according to the present invention, transaction information based on transaction authorization and a transaction authorization request signal are constructed  
5 as a short message to be transmitted to the mobile communication terminal of a credit card holder, illegal use of the credit card can be prevented.

Since credit card lottery drawing result information based on various lottery winning standards is transmitted to the mobile communication terminal of a credit card holder in the form of a short message, the staff in charge of telephone communications  
10 for notifying individuals of the lottery drawing result is not required.

Also, since credit card lottery result information, either winning or losing in a lottery, is provided to credit card users in a real-time basis, the credit card lottery system can advantageously enjoy increased publicity effects.

Further, since a user's preference is determined and advertisement information  
15 according to the determined user's preference is transmitted with transaction information attached thereto in the form of a short message, increased advertisement effects for the transmitted advertisement information can be achieved.

While this invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that  
20 the invention is not limited to the disclosed embodiment, but on the contrary, it is intended to cover various modifications and equivalent arrangements included with the spirit and scope of the appended claims.

What is claimed is:

1. A method for notifying credit transaction information by a short message service company connected to a credit card company and a mobile communication company through a predetermined network, the method comprising the steps of:

5 receiving transaction information occurring at the time of use of a credit card, from the credit card company;

constructing a short message containing a predetermined telephone number designated by the credit card company in the received transaction information; and

10 transmitting the short message to the corresponding mobile communication terminal of a credit card holder through the mobile communication company.

2. The method according to claim 1, further comprising the step of the credit card company receiving a transaction verification signal or a credit card use prohibition request signal from the mobile communication terminal of the credit card holder connected through the telephone number.

15 3. An apparatus for notifying credit transaction information using a short message, the apparatus comprising:

a credit card affiliated company for issuing a transaction authorization request signal based on use of a credit card, with transaction information, at the time when the credit card is used;

20 a credit card company for issuing transaction information containing a predetermined telephone number in the transaction information received from the credit card affiliated company;

a short message service company for constructing a short message from the transaction information received from the credit card company;

25 a mobile communication company for transmitting the short message received from the short message service company to the corresponding mobile communication terminal of the credit card holder; and

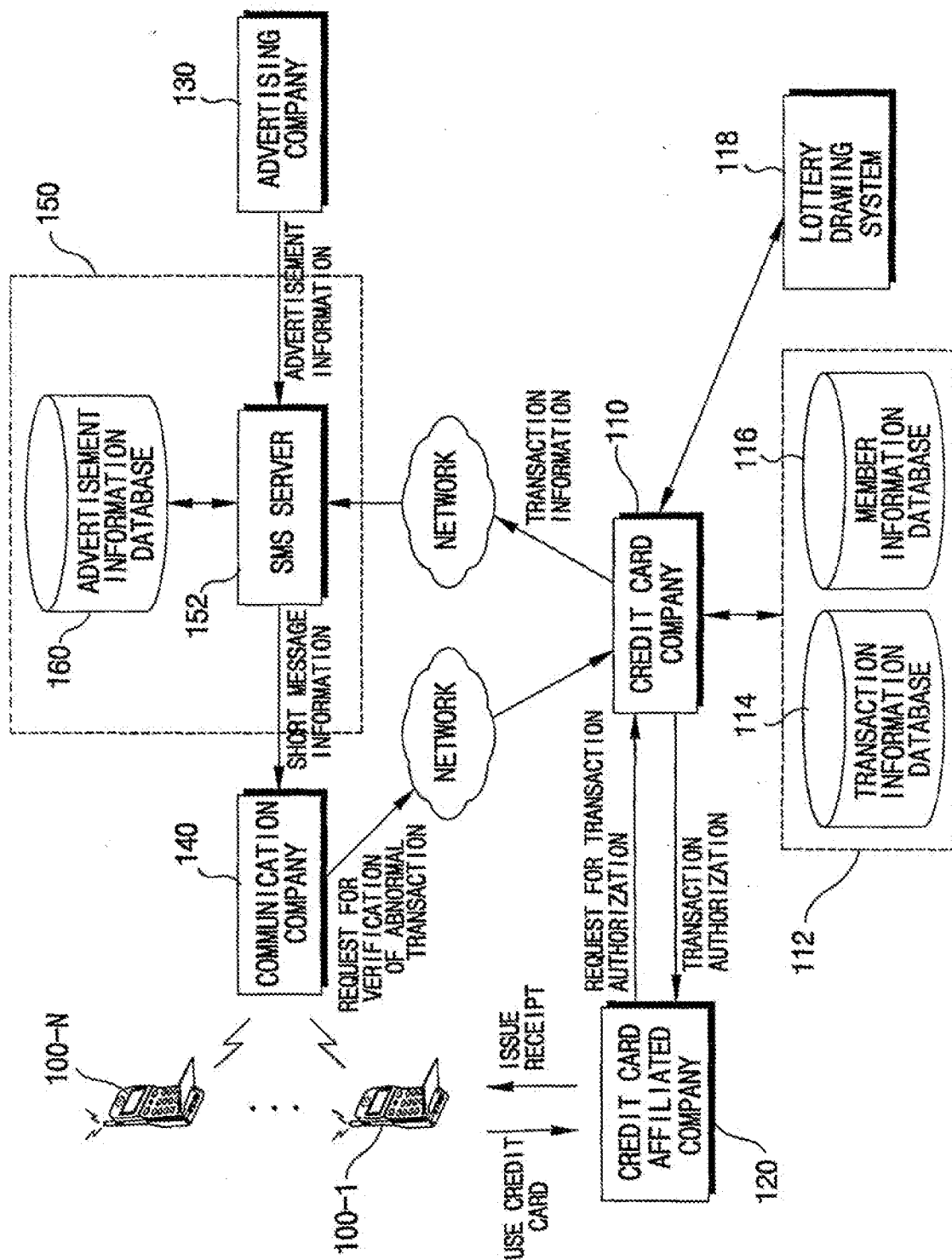
a mobile communication terminal for receiving the short message from the mobile communication company and displaying the same, wherein approval or  
30 disapproval of the credit card is displayed on the corresponding mobile communication

terminal of the credit card holder using the short message at the time when the credit card is used.

4. The apparatus according to claim 3, wherein the mobile communication terminal further comprises a means for transmitting a transaction verification signal or a  
5 credit card use prohibition request signal to the credit card company.

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FIG. 1



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FIG. 2A

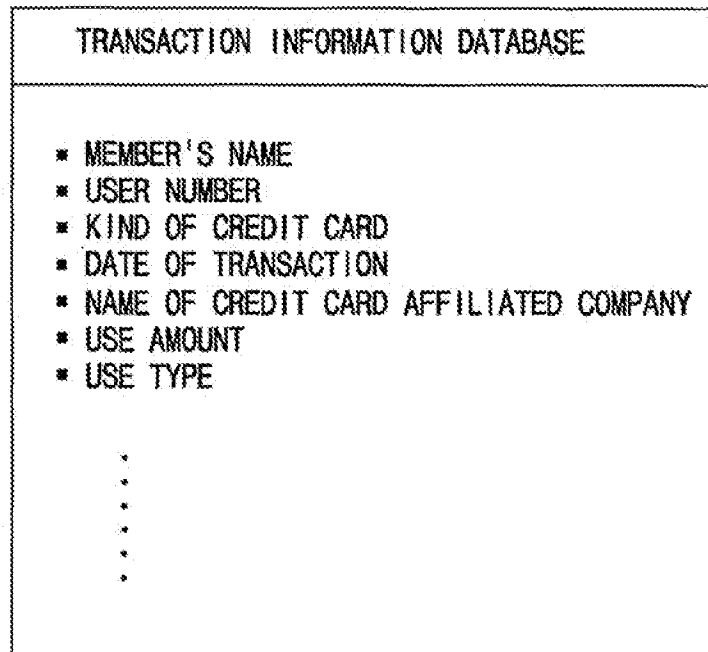
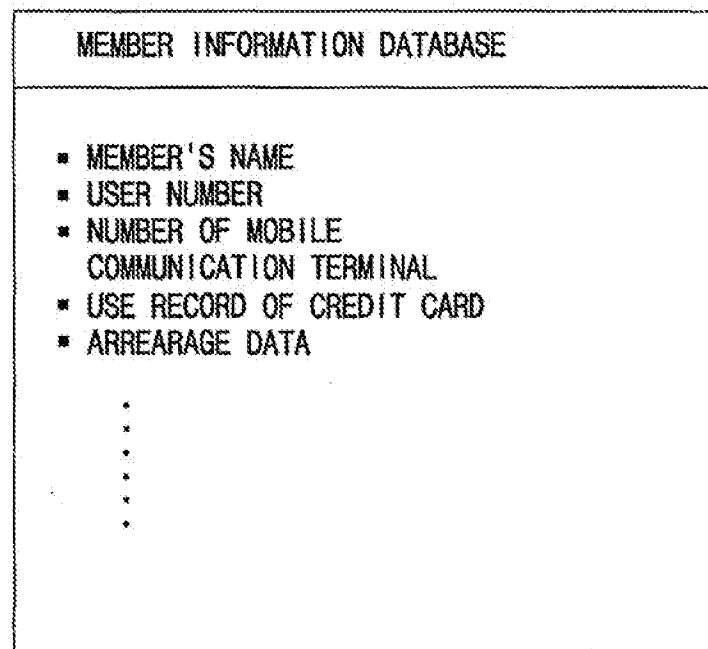


FIG. 2B



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FIG. 2C

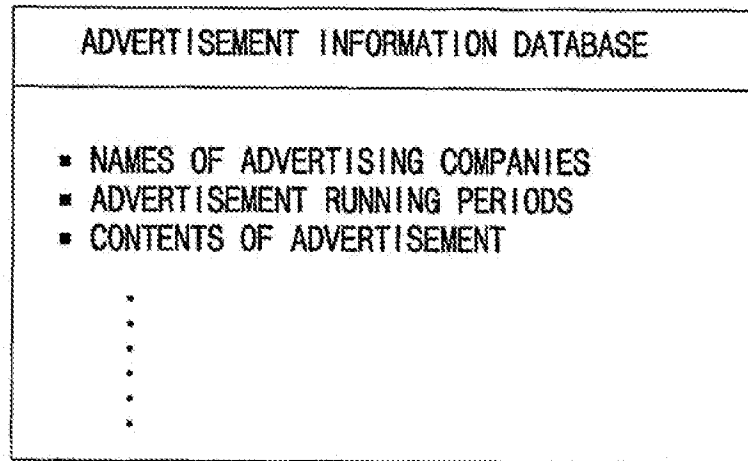
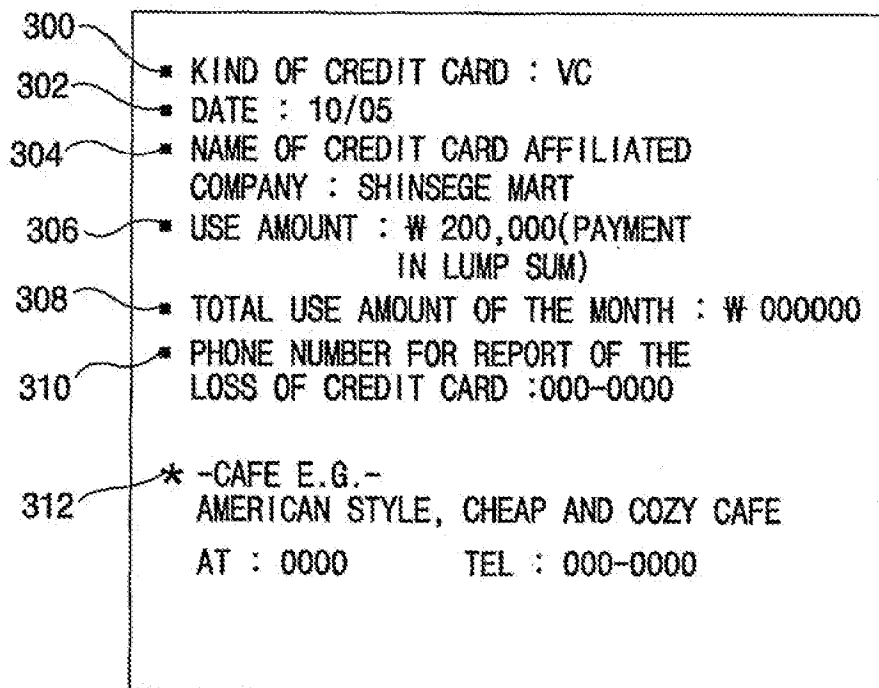


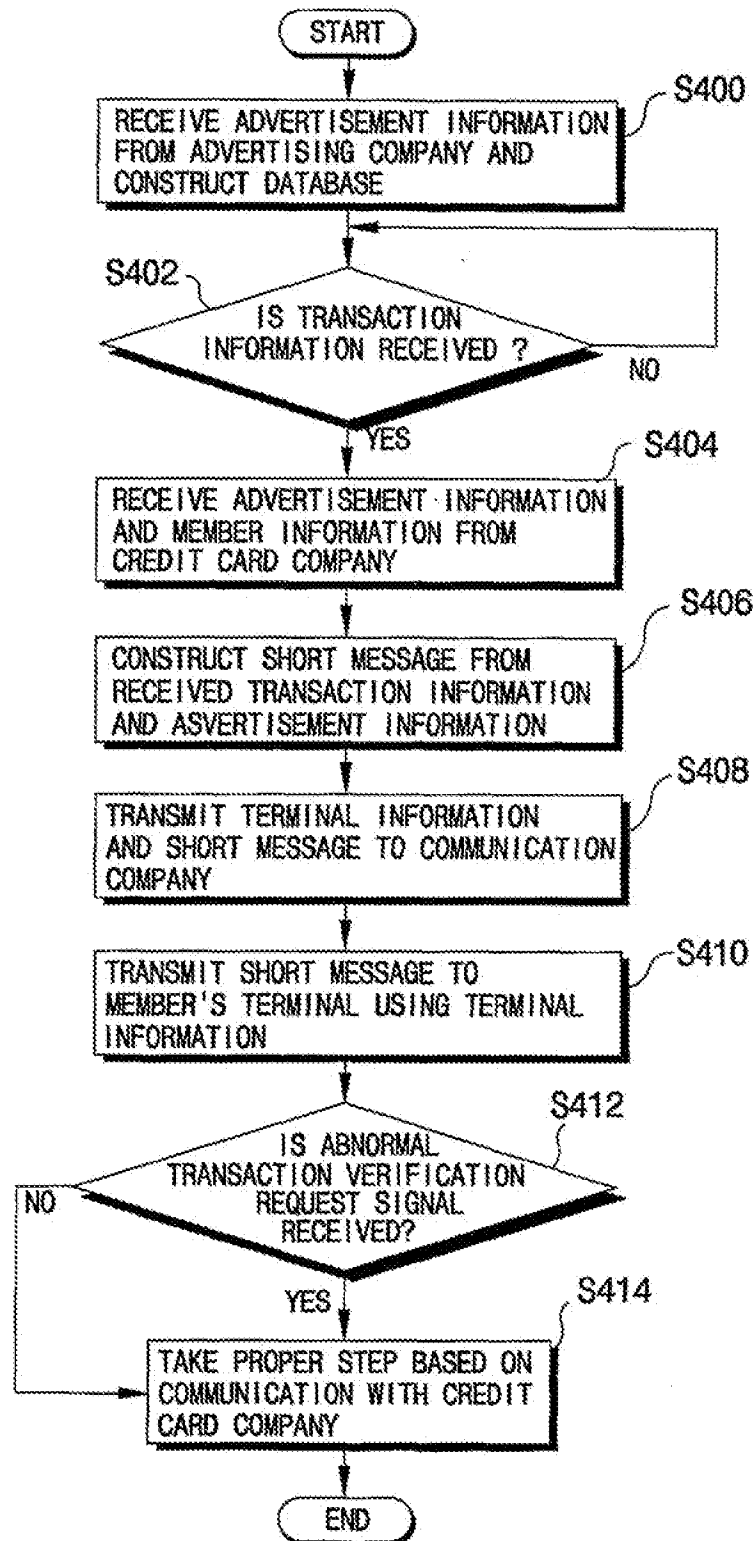
FIG. 3





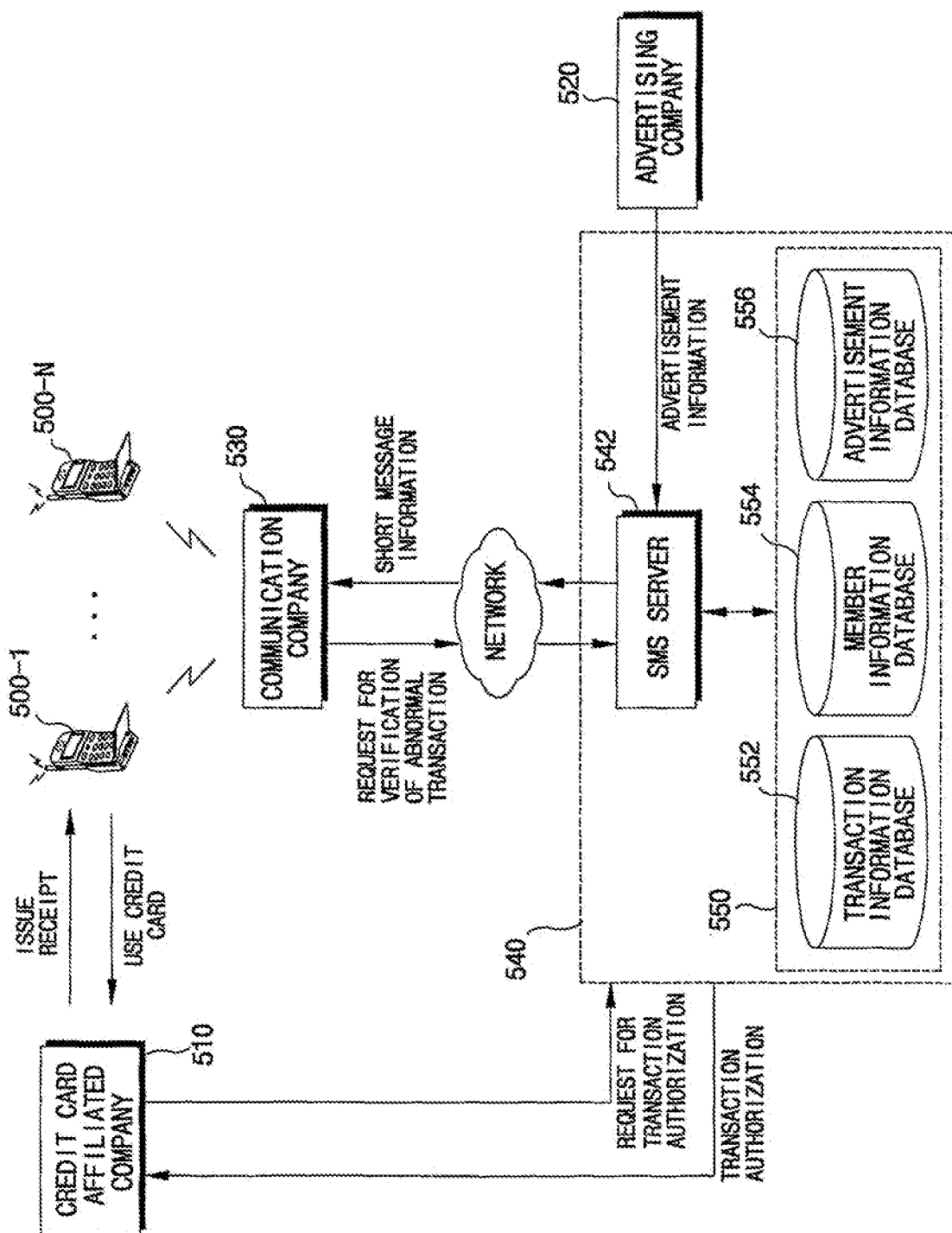
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FIG. 4



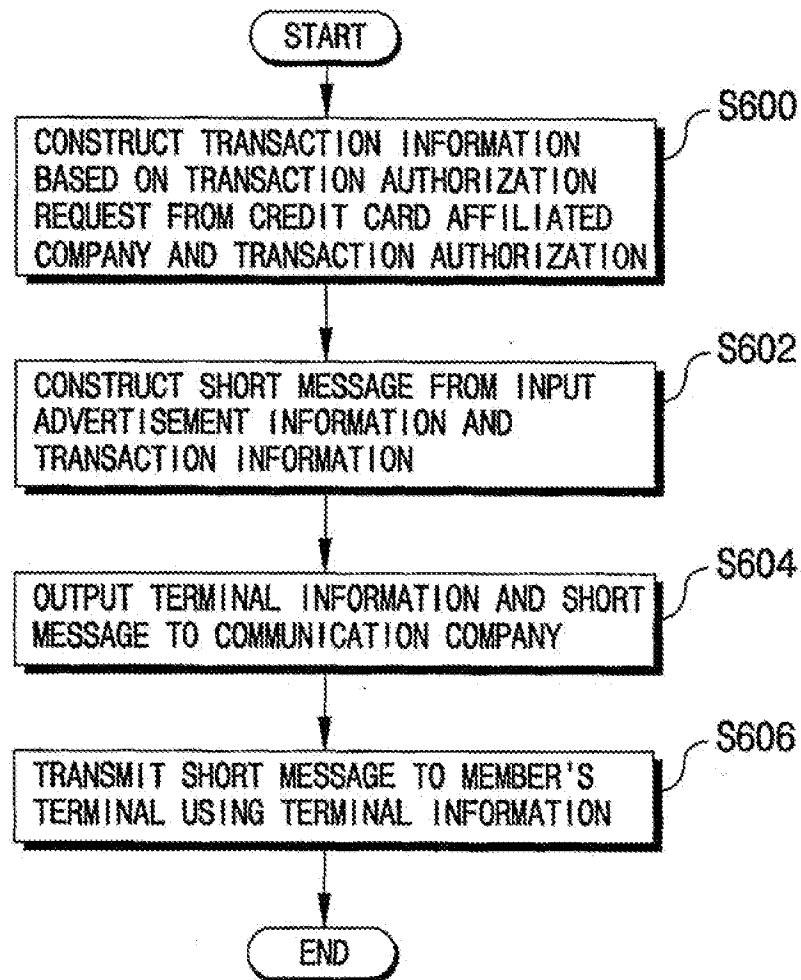
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FIG. 5



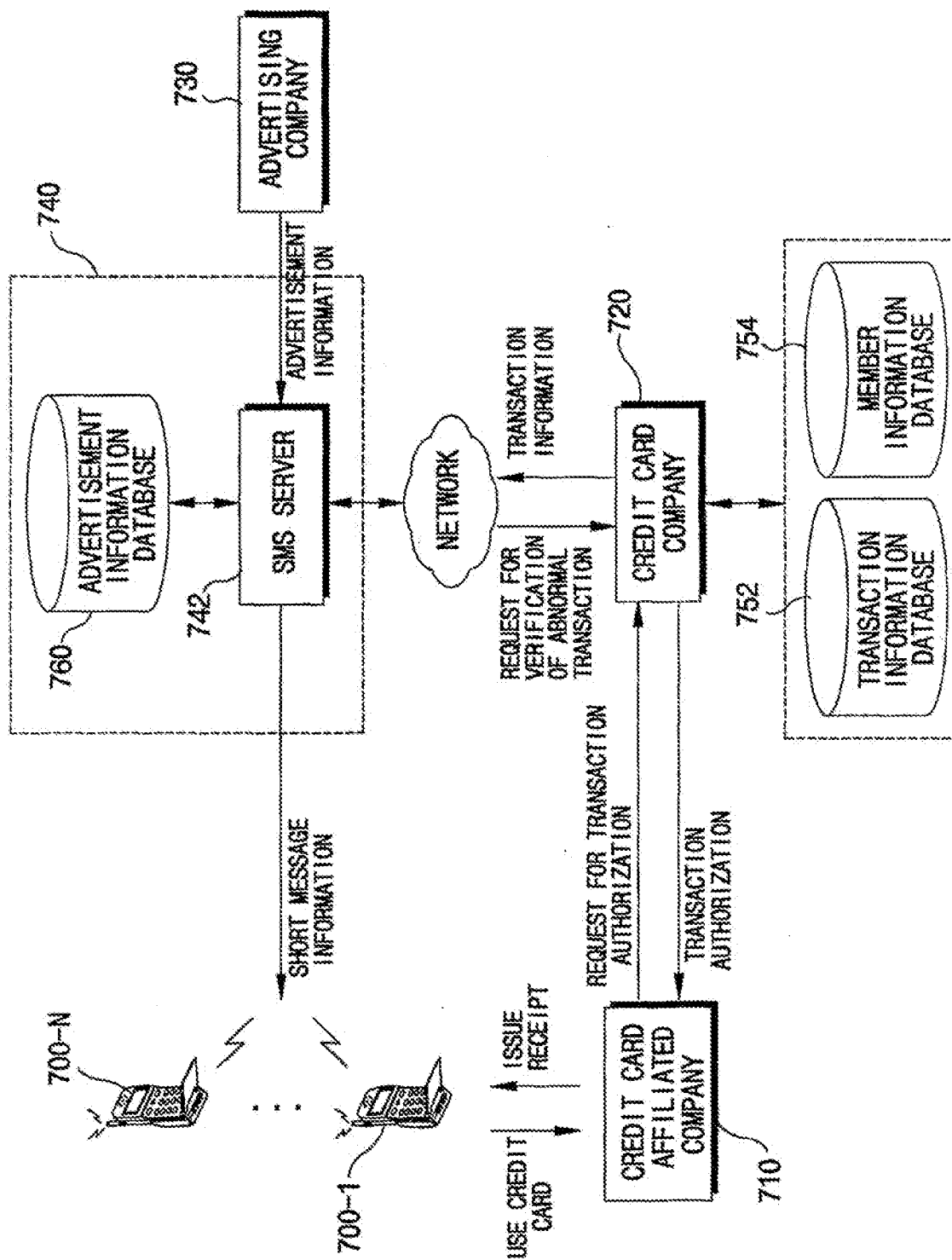
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FIG. 6



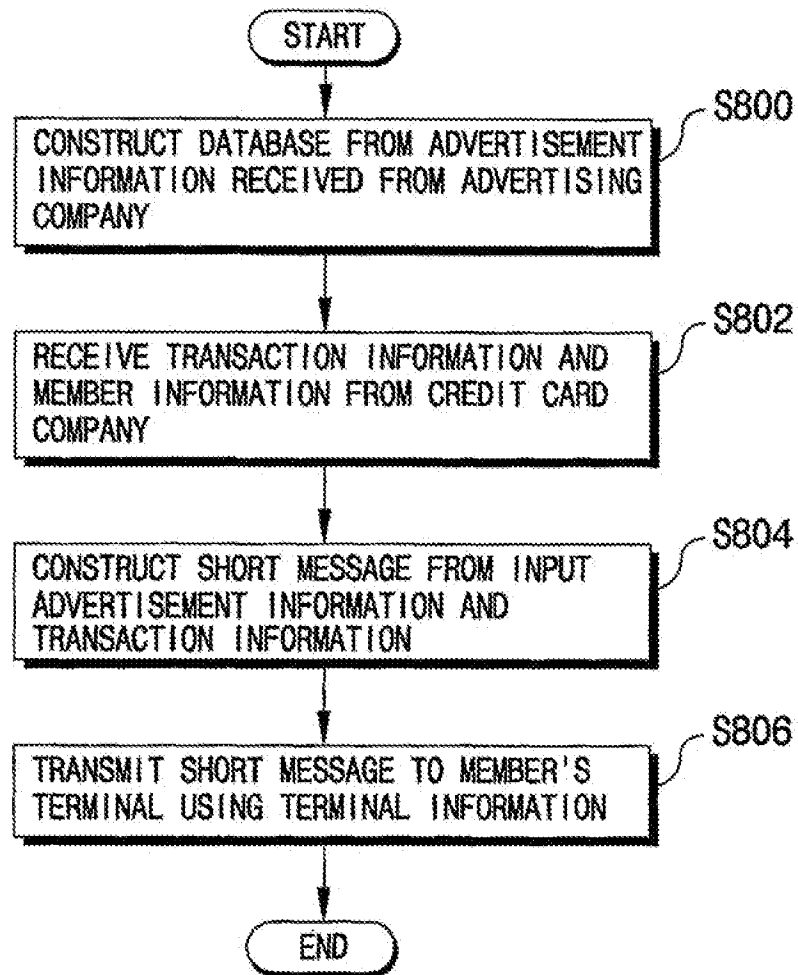
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FIG. 7



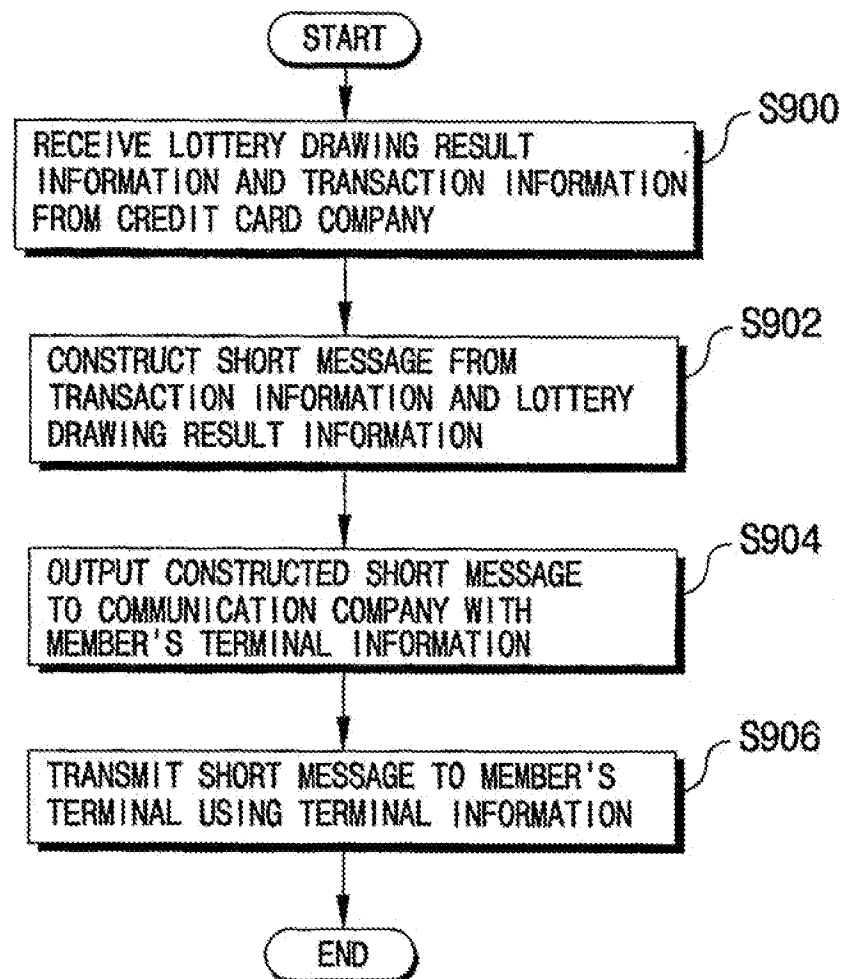
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FIG. 8



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FIG. 9



## INTERNATIONAL SEARCH REPORT

 international application No.  
 PCT/KR01/01735

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> <b>IPC7 G06F 17/60</b> According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC7 G06F 17/60 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Korean patents and applications for inventions since 1975 Korean Utility models and applications for Utility models since 1975 Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPI, PAJ, IEEE/IEE Electronic Library (Since 1988) "CREDIT CARD", "TRANSACTION", "MOBILE PHONE"		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KR 2000-24689 A (SEOUL MOBILE TELECOMMUNICATION CO.) 6 MAY 2000 see the whole document	1,3
Y	US 6,067,529 A (Dipankar Ray) 23 MAY 2000 see the whole document	1,3
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "F" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principles or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 07 DECEMBER 2001 (07.12.2001)		Date of mailing of the international search report 11 DECEMBER 2001 (11.12.2001)
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